

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912**

FACT SHEET

**DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE
CLEAN WATER ACT (CWA)**

NPDES PERMIT # MA0001121

PUBLIC NOTICE DATES:

NAME AND ADDRESS OF APPLICANT:

**Wyman-Gordon Company
244 Worcester Street
North Grafton, MA 01536-8001**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Wyman-Gordon Company
1529 Grafton Road (Route 122)
Millbury, MA 01527**

RECEIVING WATERS: Bonny Brook via adjacent unnamed wetland (Blackstone River Watershed)

CLASSIFICATION: B

SIC CODES: 3491 (Industrial Valves), and 3492 (Fluid Power Valves and Hose Fittings)

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I. PROPOSED ACTION

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge storm water into the designated receiving water. The existing permit was issued to Wyman-Gordon on December 23, 2002 (the current permit), became effective 60 days later, and expired on September 30, 2005. EPA received a permit renewal application from Wyman-Gordon dated November 4, 2005. Since the permit renewal application was deemed complete by EPA, the permit has been administratively continued.

II. TYPE OF FACILITY

Since issuance of the current permit (MA0001121) to Wyman Gordon, Millbury Facility, several changes have occurred at the site. Wyman Gordon sold property, including property associated with Outfall 003, to FIBA Technologies in March 2003. FIBA Technologies submitted a Notice of Intent (NOI) for coverage under the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP-2000) on April 19, 2004, and was granted coverage on April 21, 2004. The NOI requested coverage for the storm water discharge through Outfall 003. Wyman Gordon requested removal of Outfall 003 from the current permit in a letter dated December 2, 2004. FIBA renewed their MSGP by submittal of an NOI for coverage under the MSGP-2008 on December 1, 2008, and was granted coverage on December 31, 2008. Therefore, the storm water discharge through Outfall 003 is not included in this draft permit, as it is currently covered under the MSGP-2008.

Additionally, Wyman Gordon sold its valve assembly plant (and the Titanium Ball Valve (TBV) business), to the lessee of the property, Cooper Cameron Valves, in December 2004. In the fall of 2006, Cooper Cameron Valves moved out of the Millbury Facility and a portion of the facility was leased to FIBA Technologies. In the spring of 2008, another portion of the property was leased to Caledonian Alloys. However, Wyman Gordon is still the owner of the property (which contains Outfall 002) and maintains an office onsite. Wyman Gordon submitted a permit re-application for the discharge through Outfall 002 on November 4, 2005.

III. SUMMARY OF MONITORING DATA

A quantitative description of the discharge in terms of significant effluent parameters based on discharge monitoring reports (DMRs) submitted for Outfall 002 during the time period from March 2003 through March 2010 was reviewed and used in the development of the draft NPDES permit (draft permit). A summary of the DMR data is provided in Attachment A to this Fact Sheet.

IV. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS

The effluent limitations, monitoring requirements, and any implementation schedule, if required, may be found in Part 1 (Effluent Limitations and Monitoring Requirements) of the Draft Permit. The permit re-application is part of the administrative file (Permit No. MA0001121).

A. General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. The general conditions of the draft permit are based on 40 CFR §122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the CWA in accordance with 40 CFR §122.41(j), §122.44(i), and §122.48.

1. Technology-Based Requirements

Subpart A of 40 CFR §125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989 [See 40 CFR §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

EPA has not promulgated technology-based National Effluent Guidelines for Industrial Valves (SIC 3491) and Fluid Power Valves and Hose Fittings (SIC 3492). In the absence of technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using Best Professional Judgement (BPJ).

The 2008 MSGP for storm water discharges from industrial sources was reviewed to determine technology-based limitations for this facility. Sector AA of the MSGP (Fabricated Metal Products) includes benchmark monitoring concentrations for SIC Codes 3491 (Industrial values) and 3492 (Fluid Power Values and Hose Fittings). These benchmark monitoring concentrations are as follows:

Parameter	Benchmark Monitoring Concentration
Total Aluminum	0.75 mg/L
Total Iron	1.0 mg/L
Total Zinc ¹	0.11 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

1. The benchmark value for zinc is dependent on water hardness. The average of the recorded receiving water hardness values from the permittee's WET test results from the time period of 2003-2008 of 82 mg/L as CaCO₃ was used to identify the applicable 'hardness range' for determining the benchmark value applicable to the facility.

2. Water Quality-Based Requirements

Water quality-based criteria are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water-quality standards (See Section 301(b) (1)(C) of the CWA). Water quality-based criteria consist of three (3) parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s) of the water body; and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts State Water Quality Standards, found at 314 CMR 4.00, include these elements. The State Water Quality Regulations limit or prohibit discharges of pollutants to surface waters and thereby assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, be used unless site-specific criteria are established. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts. The Commonwealth of Massachusetts (State) has a similar narrative criterion in their water quality regulations that prohibits such discharges [See Massachusetts Title 314 CMR 4.05(5)(e)]. The effluent limits established in the Draft Permit assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained.

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such require the development of total maximum daily loads (TMDL). Bonny Brook is not listed in the Massachusetts Year 2008 Integrated List of Waters (December 2008). The downstream receiving water body, Flint Pond, is listed under 303(d) List of Impaired Waters as a Category 4c water, as impaired for noxious aquatic plants and non-native

plants. Additionally, a TMDL for phosphorus exists for Flint Pond and Lake Quinsigamond (downstream from Flint Pond).

3. Anti-Backsliding

EPA's anti-backsliding provision as identified in Section 402(o) of the Clean Water Act and at 40 CFR §122.44(l) prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued. Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from anti-backsliding provisions can only be granted under one of the defined exceptions [See 40 CFR §122.44(l)(i)]. Since none of these exceptions apply to this facility, the effluent limits in the Draft Permit must be as stringent as those in the Current Permit.

4. Anti-Degradation

The Massachusetts Anti-Degradation provisions are found at Title 314 CMR 4.04. All existing uses of Bonny Brook and the adjacent unnamed wetland must be protected. The 1998 Water Quality Assessment Report for the Blackstone River Basin (MA DEP Report Number: 51-AC) does not address Bonny Brook or the unnamed wetland. Under Massachusetts Surface Water Quality Standards 314 CMR 4.06 (4) – Basin Classification and Maps – Other Waters, it states that “Unless otherwise designated in 314 CMR 4.06 or unless otherwise listed in the tables to 314 CMR 4.00, other waters are Class B, and presumed High Quality Waters for inland waters.” Therefore, the unnamed wetland and Bonny Brook are classified as Class B water bodies.

In the 2003-2007 Water Quality Assessment Report for the Blackstone River Watershed, Flint Pond is listed as a Class B water under the Massachusetts Surface Water Quality Standards. Title 314 Code of Massachusetts Regulations (CMR) 4.05(3)(b) states that Class B waters “are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation...Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.”

B. Description of the Facility

The site is approximately 2 acres with a large two story industrial/commercial building (see Site Plan, Attachment B). The building, which houses Wyman-Gordon Company offices, Caledonian Alloys and FIBA Technologies, is located on the highest point on the property and covers most of the site. The remainder of the property is paved, with a small landscaped portion in the front of the building. The storm water from the site, which consists of roof and parking lot runoff, collects in catch basins located throughout the site and results in discharge of untreated storm water through Outfall 002.

As mentioned above, a portion of the site is leased to Caledonian Alloys, which consolidates

scrap metal. Within the building, Caledonian Alloys receives scrap metal from the Wyman Gordon Worcester and Grafton facilities and segregates the metals by type. Caledonian Alloys does not store any materials outside, and all loading and unloading of metals is done inside.

Another portion of the site is leased to FIBA Technologies, which manufactures high pressure vessels and tube trailers. FIBA manufactures high pressure (2,000-3,000 psi) gas vessels in one part of the building, and manipulates sheet metal for trailer re-fabrication in a separate part of the building. FIBA stores trailers awaiting re-fabrication outside, near Outfall 002. Additionally, FIBA stores tires and various raw materials used in the manufacturing processes (metal tubing, bar stock) in a small fenced in area adjacent to the building. Some raw materials are covered by tarps, while others are exposed.

No industrial activities or vehicle maintenance occurs outside. No process water originates from any activity which occurs on site. The only discharge from the site is storm water, which flows through Outfall 002.

C. Description of Discharge

Outfall 002 discharges untreated storm water which flows from the building roof and surrounding paved areas. The middle roof is a membrane roof with a silver coating, the upper and lower roofs are metal, and the office building has an asphalt built-up roof. Storm water also comes in contact with various raw materials, which are not covered in the fenced-in area adjacent to the building, as well as with trailers awaiting re-fabrication.

There are consistently high levels of aluminum and zinc in the discharge. The current permit required the permittee to develop and implement a Source Identification and Reduction Plan to determine the source of the aluminum and zinc contamination in the discharge.

In an attempt to remove the sources of aluminum and zinc in the discharge, the drainage system was cleaned of all standing solids by Harbors Industrial Services, a subsidiary of Clean Harbors, Inc. The cleaning was completed on July 21, 2003; however, the DMRs reveal that the discharge still contained high levels of both metals after the cleaning. DMR data collected during the period after the drainage system was cleaned reveals the same maximum and average levels of aluminum and zinc as was present before the cleaning. A letter from Wyman Gordon on September 29, 2005 stated that elevated levels of aluminum were found in the runoff from the membrane roof and in the sand used to treat the parking lots, but that there was no clear source of contamination.

In light of the above, and as required by the current permit, on April 7, 2009, EPA requested that Wyman Gordon develop and implement site specific BMPs aimed at reducing or eliminating aluminum and zinc in the discharge. In addition, EPA requested pursuant to Section 308(a) of the Clean Water Act¹ that the company sample for aluminum and zinc on a monthly (calendar month)

1. Section 308(a) of the Clean Water Act (CWA) 33 USC 1318(a), authorizes EPA to require any person to provide information to assist in "Developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act," or to carry out other requirements of the CWA.

basis at Outfall 002 during storm events, and submit a report of the sampling data within one year.

As a result, Wyman Gordon indicated in a letter dated June 2, 2009, their plan to implement the following BMPs:

1. Installation and maintenance of silt sacks in catch basins that drain to Outfall 002
2. Monthly sweeping of roadways (as long as frozen conditions do not exist)
3. Evaluation of the feasibility of redirecting roof drainage

After collecting a year of sampling results, Wyman Gordon submitted a report on April 29, 2010, which indicated that the levels of aluminum and zinc in the roof runoff contribute to the source of aluminum and zinc in the stormwater discharge. The results of the roof runoff grab samples (1.99 mg/L total recoverable aluminum and 0.248 mg/L total recoverable zinc) suggest that this flow contributes to the total levels of aluminum and zinc in the discharge, which average 3.44 mg/L and 0.351 mg/L, respectively, but that it is not the only source.

The permittee evaluated roof runoff options by blocking one catch basin in the drainage area with a solid cover, which caused drainage from the lower and middle roof to be redirected to the driveway and discharge via overland flow to the vegetated area along the side of the road. Some flow was also potentially redirected towards the catch basin in the corner of the parking lot. The permittee requested an additional year to further evaluate the seasonal effects of the BMPs implemented and to investigate roof runoff options.

The sampling results submitted with the report indicate that the BMPs developed and implemented by Wyman Gordon, as listed above, have not succeeded in reducing the levels of aluminum and zinc in the discharge. The concentrations of total recoverable aluminum and zinc (both maximum and average values) in the discharge measured over the past year are actually higher than the values measured over the previous years (March 2003 through March 2010). See Part IV.E.1.f and IV.E.1.g of this fact sheet, below.

Therefore, the draft permit shall require development and implementation of more stringent BMPs to attempt to reduce and/or eliminate the source(s) of aluminum and zinc in the discharge. Potential sources of aluminum and zinc are sand used to treat the parking lots, roof runoff, and raw materials and trailers awaiting re-fabrication outside. The site specific BMPs are outlined in Part IV.F of this fact sheet and Part I.B of the draft permit.

D. Discharge Location

Outfall 002 discharges to an unnamed wetland (shallow marsh meadow fen) adjacent to Bonny Brook, which flows to a deep marsh adjacent to Flint Pond.

E. Proposed Permit Effluent Limitations and Conditions**1. Outfall 002****a. Flow**

The current permit requires the permittee to report the maximum daily flow values for Outfall 002. The maximum recorded daily flow from the facility for the period from March 2003 through March 2010 was 488,914 gpd and the average daily flow was 94,571 gpd. The draft permit requires the permittee to continue reporting the maximum daily flow values for Outfall 002. Flow shall continue to be estimated on a daily basis at the discharge point located at the end of the pipe, prior to discharging into the receiving water.

The draft permit shall also require reporting of weather data, which was also a requirement of the current permit. The permittee shall report data from a rain gage located at the neighboring Wyman Gordon Grafton facility or from a rain gage at this facility if it becomes available, concurrent with the monthly parameter sampling. The permittee shall report the intensity, duration, and amount of precipitation for each rain event on the DMR cover letter and report the monthly average and daily maximum inches of rainfall/precipitation on the DMRs. Intensity shall be reported in units of inches/hour and amount of precipitation shall be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a precipitation event greater than 0.1 inches in magnitude and end when the precipitation event ends.

b. Dilution Factor

EPA has determined that a dilution factor of one is appropriate for Outfall 002 since it discharges to a wetland. State Water Quality Standards establish the hydrologic condition at which water quality criteria must be applied. For rivers and streams the hydrologic condition is the lowest observed mean river flow for seven consecutive days recorded over a 10-year recurrence interval (7Q10) (314 CMR §4.03(3)). Water quality-based effluent limits are then based on a dilution factor calculated using the permitted flow of the facility and the low flow condition in the receiving water. For the discharge to the wetland, a dilution factor of one was assumed based on the inconsequential river flow through the wetland during critical summer period. Therefore, a dilution factor of 1.0 was used in assessing the need for effluent limits for metals.

c. Total Suspended Solids (TSS)

The current permit contained a reporting requirement for maximum daily TSS, monitored at a frequency of 1/month. Review of the DMRs reveals that the maximum daily TSS recorded during the time period from March 2003 through March 2010 was 454 mg/L, and the average of the recorded maximum daily TSS values was 44 mg/L. On six (6) occasions, the maximum daily TSS concentrations have exceeded 100 mg/L (which has been required in the past as a technology-based effluent limitation in individual NPDES permits in Massachusetts based on BPJ). Additionally, Massachusetts has a narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and

combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom."

Therefore, the draft permit requires the permittee to monitor the monthly average and daily maximum TSS concentration and develop and implement BMPs as part of their SWPPP to address the high levels of TSS in the discharge through Outfall 002. The permittee should be able to reduce the levels of TSS in the discharge through implementation of site specific best management practices (BMPs), since the only discharge through Outfall 002 is storm water.

d. Oil and Grease (O&G)

The maximum daily effluent limit for oil and grease in the current permit of 15 mg/L is based on Massachusetts Water Quality Standards for a Class B inland water body. According to 314 CMR 4.05(3)(b)(7), "these waters shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portion of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life." A concentration of oil and grease of 15 mg/L is recognized as the level at which many oils produce a visible sheen and/or cause an undesirable taste in fish.²

Review of DMR data for the time period from March 2003 through March 2010 shows that the maximum daily limit was exceeded on two occasions. The highest of the daily maximum O&G concentrations was 19 mg/L, and the average of the daily maximum concentrations was 1.6 mg/L. Therefore, the draft permit maintains a maximum daily O&G limit of 15 mg/L, monitored at a frequency of 1/month, based on Massachusetts Water Quality Standards and anti-backsliding requirements found in 40 CFR §122.44(l).

e. pH

The current permit requires a pH limitation range of 6.5 – 8.3 SU. The pH limits are based on the Massachusetts Surface Water Quality Standards, 314 Code of Massachusetts Regulations ("CMR"), Inland Water, Class B at 4.05 (3)(b)3. These standards require that the pH of the receiving water be in the range of 6.5 to 8.3 standard units and no more than 0.5 units outside the background range. There shall no change from background conditions that would impair any use assigned to this Class. The water quality criteria have been adopted as discharge limitations based on certification requirements under Section 401(a)(1) of the CWA, as described in 40 CFR 124.53 and 124.55.

If the pH results are outside the range of 6.5 – 8.3 SU due to background conditions (rainfall), the permittee shall indicate on the DMR that the rainfall pH was outside the range of 6.5 – 8.3 SU and that the pH of the discharge was within 0.5 SU of the rainfall's pH level. To support this conclusion, monitoring data of the rainfall and the natural background pH shall be provided along

2 USEPA. 1976. *The Red Book – Quality Criteria for Water*. July 1976.

with the DMR. The permit allows for the pH limits to be exceeded when the ambient pH of the rainwater is outside the required pH range and the pH of the discharge is not altered by more than 0.5 SU from the natural background pH.

Review of the DMR data reveals that the pH limit range has been violated on 38 occasions, with all violations lower than the 6.5 SU. The pH limitation range of 6.5 – 8.3 SU shall remain in the permit, in accordance with anti-backsliding requirements found in 40 CFR §122.44(l).

f. Aluminum

The previous permit required monitoring of the daily maximum aluminum concentration at a frequency of 6/year. Review of the DMRs for the time period of March 2003 through April 2009 reveals that the highest of the daily maximum concentrations was 5.6 mg/L and the average of the daily maximum concentrations was 1.0 mg/L. The additional grab samples taken during the time period of May 2009 through March 2010 (summarized below in Table 1) reveal that the highest concentration of aluminum was 13 mg/L and the average was 3.4 mg/L (after implementation of BMPs as described in Part IV.C, above). The permittee stated in a report dated April 29, 2010 that the higher readings of aluminum have occurred during more significant storm events, and that frozen conditions during the winter season prevented several monthly sweepings, which could lead to higher aluminum concentrations in the winter.

Table 1. Outfall 002 - Additional Monitoring Data

Date	Aluminum mg/L	Zinc mg/L
May-09	0.865	0.108
Jun-09	5.28	0.82
Jul-09	0.216	0.8
Aug-09	2.8	0.181
Sep-09	2.8	0.181
Oct-09	0.249	0.083
Nov-09	0.966	0.127
Dec-09	1.37	0.249
Jan-10	6.36	0.286
Feb-10	13	0.735
Mar-10	3.88	0.287
maximum	13	0.82
minimum	0.22	0.083
average	3.4	0.35
Prior to BMPs implemented in May 2009 (as described in Part IV.C)		
maximum	5.6	0.56
minimum	0.050	0
average	1.0	0.19

Considering that the National Recommended Water Quality Criteria for total recoverable aluminum are 0.087 mg/L for the chronic and 0.750 mg/L for the acute, that the benchmark monitoring concentration for Sector AA of the MSGP (Fabricated Metal Products) for aluminum is 0.75 mg/L, and that the facility has minimal dilution (with a dilution factor of 1.0), these levels of aluminum are high.

Therefore, the draft permit requires the permittee to develop site specific BMPs as part of the SWPPP and to continue monitoring for aluminum at a frequency of 1/month. The permittee should be able to reduce the levels of aluminum in the discharge to below the MSGP benchmark monitoring concentration (0.75 mg/L) through implementation of site specific best management practices (BMPs), since the only discharge through Outfall 002 is storm water.

The draft permit requires sampling of both total recoverable aluminum and dissolved aluminum on a monthly basis. This information will help determine the most effective method to reduce and/or eliminate aluminum from the discharge.

g. Zinc

The previous permit required monitoring of the daily maximum zinc concentration at a frequency of 6/year. Review of the DMRs for the time period from March 2003 through April 2009 reveals that the highest of the daily maximum concentrations was 0.56 mg/L and the average of the daily maximum concentrations was 0.19 mg/L. Additional grab samples during the time period of May 2009 through March 2010 (see Table 1, above) reveal that the highest concentration of zinc was 0.82 mg/L and the average was 0.35 mg/L (after implementation of BMPs as described in Part IV.C, above). The permittee stated in a report dated April 29, 2010 that the higher readings of zinc have occurred during more significant storm events, and that frozen conditions during the winter season prevented several monthly sweepings, which could lead to higher zinc concentrations in the winter.

The National Recommended Water Quality Criteria for total dissolved zinc is 0.120 mg/L for both the chronic and acute water quality criteria, assuming hardness of 100 mg/L. Using the average hardness value from the WET tests of 82 mg/L, the total dissolved zinc is 0.100 mg/L for the chronic water quality criteria and 0.099 mg/L for the acute criteria. Finally, dividing this dissolved concentration by the metal conversion factors for zinc, the total recoverable zinc water quality criteria is calculated as 0.101 mg/L chronic and 0.099 mg/L acute (based on a dilution factor of 1.0, the limits do not change). The water quality criteria are slightly lower than the 0.11 mg/L benchmark concentration from the MSGP.

Therefore, the draft permit requires the permittee to develop site specific BMPs to reduce the levels of zinc in the discharge and to continue monitoring for zinc at a frequency of 1/month. The permittee should be able to reduce the levels of zinc in the discharge to below the MSGP benchmark monitoring concentration (0.11 mg/L) through implementation of site specific best management practices (BMPs), since the only discharge through Outfall 002 is storm water.

The draft permit requires sampling of both total recoverable zinc and dissolved zinc on a monthly basis. This information will help determine the most effective method to reduce and/or eliminate zinc from the discharge.

h. Iron

Sector AA of the MSGP (Fabricated Metal Products) includes a benchmark monitoring concentration of 1.0 mg/L for total recoverable iron. Additionally, the National Recommended Water Quality Criteria for total recoverable iron is 1.0 mg/L for the chronic freshwater criterion.

The discharge has not been previously monitored for iron, therefore, to ensure the discharge is below the benchmark monitoring concentration and water quality criteria of 1.0 mg/L, the draft permit requires the permittee to monitor for total recoverable iron. If the monitoring results indicate that the discharge exceeds the benchmark monitoring concentration for iron, the permit may be modified to require effluent limitations for iron, and/or development of BMPs, pursuant to the SWPPP, to reduce the level of iron in the discharge from the facility. Monitoring for total recoverable iron shall be required at a frequency of 1/quarter. The BMPs required to be implemented to reduce and/or eliminate the concentrations of aluminum and zinc will likely reduce the concentration of iron in the discharge as well.

i. Nitrate – Nitrite (as N)

Sector AA of the MSGP (Fabricated Metal Products) includes a benchmark monitoring concentration of 0.68 mg/L for nitrate-nitrite (as N). The discharge has not been previously monitored for nitrate-nitrite (as N), therefore, to ensure the discharge is below the benchmark monitoring concentration of 0.68 mg/L, the draft permit requires the permittee to monitor for nitrate-nitrite (as N). If the monitoring results indicate that the discharge exceeds the benchmark monitoring concentration for nitrate-nitrite, the permit may be modified to require effluent limitations for nitrate-nitrite, and/or development of BMPs, pursuant to the SWPPP, to reduce the level of nitrate-nitrite, in the discharge from the facility. Monitoring for nitrate-nitrite (as N) shall be required at a frequency of 1/quarter.

j. Phosphorus

A TMDL for phosphorus exists for Lake Quinsigamond and Flint Pond, downstream from the receiving water of Bonny Brook.³ Since no phosphorus data is available for the discharge from this facility, the TMDL recommends that the discharge be monitored for phosphorus, so phosphorus loading can be more accurately determined and reduced if appropriate. Therefore, the draft permit shall required monitoring of phosphorus, on a quarterly basis.

³ <http://www.mass.gov/dep/water/resources/quinsig.pdf>

k. Whole Effluent Toxicity (WET) Testing

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards include the following narrative statement and requires that EPA criteria established pursuant to Section 304(a)(1) of the CWA be used as guidance for interpretation of the following narrative criteria: All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

The Region typically includes toxicity testing requirements where a combination of toxic constituents may be toxic to humans, aquatic life, or wildlife. Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts.

Due to the potential for toxicity resulting from the combination of pollutants in the facility's discharge, in accordance with EPA national and regional policy, and in accordance with MassDEP policy, the previous permit included acute toxicity monitoring requirements. (See *Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants*, 50 Fed. Reg. 30,784 (July 24, 1985); EPA's *Technical Support Document for Water Quality-Based Toxics Control* (March 1991); and MassDEP's *Implementation Policy for the Control of Toxic Pollutants in Surface Waters* (February 23, 1990).

The current permit required that the permittee conduct four freshwater acute WET tests for the Outfall 002 effluent, during each year of the effectiveness of the permit (1/Quarter) and meet an acute LC₅₀ of greater than or equal to 100%. Review of DMR data collected from March 2003 through March 2010 reveals that the acute limit has been exceeded on 4 occasions for the daphnid, Ceriodaphnia dubia, and 2 occasions for the fathead minnow, Pimephales promelas.

The requirement to test the fathead minnow, Pimephales promelas, has been removed from the permit. The 2003-2007 Water Quality Assessment Report for the Blackstone River Watershed, p. 36, recommends elimination of the fathead minnow, since the daphnid has consistently been the more sensitive species.

Therefore, the permittee shall test the daphnid, Ceriodaphnia dubia, at a frequency of 1/quarter. The tests must be performed in accordance with test procedures and protocols specified in Attachment 1 of the permit. The tests shall be performed during the following months: January, April, July, and October, if there is a discharge in these months. The test results shall be submitted by the last day of the month following the completion of the test. In the event there is no discharge during these months, the permittee shall sample as soon as practicable thereafter, and submit the test results by the last day of the month following completion of the test. Quarterly WET tests shall be performed concurrent with the monthly parameter sampling requirements of the permit.

F. Storm Water Pollution Prevention Plan (SWPPP)

This facility engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through storm water runoff. These operations include at least one of the following in an area potentially exposed to precipitation or storm water: material storage, in-facility transfer, material processing, material handling, or loading and unloading. To control the activities/operations, which could contribute pollutants to waters of the United States, potentially violating the State's Water Quality Standards, the Draft Permit requires the facility to develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) containing best management practices (BMPs) appropriate for this specific facility (See Sections 304(e) and 402(a)(1) of the CWA and 40 CFR §122.44(k)). Specifically, at this facility, the storage of raw materials including metal tubing and bar stock in the fenced-in area, and the storage of trailers awaiting re-fabrication near Outfall 002 are examples of material storage that shall continue to be included in the SWPPP.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the storm water system. The SWPPP serves to document the selection, design and installation of control measures, including BMPs. Additionally, the SWPPP requirements in the Draft Permit are intended to provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. The SWPPP documents the appropriate BMPs implemented or to be implemented at the facility to satisfy the non-numeric technology-based effluent limitations included in the Draft Permit. These non-numeric effluent limitations support, and are equally enforceable as, the numeric effluent limitations included in the Draft Permit.

This process involves the following four main steps:

1. Forming a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the plant manager in its implementation;
2. Assessing the potential storm water pollution sources;
3. Selecting and implementing appropriate management practices and controls for these potential pollution sources; and
4. Reevaluating, periodically, the effectiveness of the SWPPP in preventing storm water contamination and in complying with the various terms and conditions of the Draft Permit.

Additionally, the permittee shall develop and implement site specific BMPs to reduce the levels of metals (specifically aluminum and zinc) and TSS in the discharge. Potential sources of aluminum and zinc are sand used to treat the parking lots, roof runoff, and raw materials and trailers awaiting re-fabrication outside. At a minimum, the permittee shall modify its SWPPP to reflect the following BMPs:

1. The permittee shall eliminate, replace, or repair any damaged catch basins contributing flow to Outfall 002 as soon as practicable, but not later than ninety (90) days from the effective date of the permit, and shall notify EPA in writing when such work has been completed. In the event that local or state permits are required to complete this work, the permittee shall have ninety (90) days from the expiration of any applicable appeal period. In the event that weather interferes with completing this work, the permittee shall have thirty (30) days from the resumption of suitable weather to complete the work. Where the permittee determines that the catch basin cannot be eliminated for reasons of flooding or other safety concerns, the permittee shall replace it with a catch basin of similar design.
2. The permittee shall inspect and maintain silt sacks in all catch basins serving drainage areas discharging to Outfall 002 at a frequency of at least monthly. The permittee shall modify its SWPPP to document the inspection, cleaning, and replacement practices for the installed silt sacks.
3. The permittee shall use vacuum equipment to sweep all paved or impervious areas of its property draining to Outfall 002 where solids deposition may occur, including roads, driveways, parking areas, sidewalks, loading areas. At a minimum, sweeping shall be completed monthly during spring, summer, and fall. During the winter months when weather conditions prevent fulfillment of the required minimum sweeping frequency, the permittee may adjust or lengthen its scheduled frequency to accommodate sweeping during available periods of acceptable thaw. The permittee shall ensure that sweepings collected at its facility are reused or disposed in a manner consistent with MassDEP's [Policy #BWP-94—092 : Reuse & Disposal of Street Sweepings](#).
4. To the extent practicable for the Outfall 002 drainage area, the permittee shall store indoors or protect with weather-resistant covers, all raw materials and trailers awaiting re-fabrication (to minimize exposure to rain and wind). The permittee shall evaluate the feasibility of storing raw materials indoors. Not later than thirty (30) days from the effective date of the permit, the permittee shall notify EPA in writing to describe the circumstances, if any, in which indoor storage or coverage of such materials is deemed to be impracticable or inadvisable. By this same date, the permittee shall modify its SWPPP to include this practice and described related procedures, materials and methods. In the event that the permittee determines indoor storage or coverage of any raw materials or trailers awaiting re-fabrication is impracticable or inadvisable, the permittee shall sample the runoff from each drainage area which contains exposed materials for both total recoverable and total dissolved aluminum and total recoverable and total dissolved zinc. This information shall be submitted not later than ninety (90) days from the date of notification that indoor storage or coverage is impracticable or inadvisable.
5. The permittee shall evaluate the feasibility of redirecting the stormwater runoff from the roof directly to the ground for infiltration as soon as practicable, but not later than thirty (30) days from the effective date of the permit, and shall notify EPA in writing when such an evaluation has been completed. In the event that the redirection of stormwater roof runoff directly to the ground for infiltration is feasible, the permittee shall complete the work as soon as practicable,

but not later than sixty (60) days from the effective date of the permit. In the event that local or state permits are required to complete this work, the permittee shall have sixty (60) days from the expiration of any applicable appeal period. In the event that weather interferes with completing this work, the permittee shall have sixty (60) days from the resumption of suitable weather to complete the work.

6. In the event that site specific BMPs (including those required in Parts I.B.8.a through I.B.8.e, directly above) are ineffective at reducing the concentrations of aluminum and zinc in the discharge to levels below the benchmark monitoring concentrations in the MSGP within ten (10) months of the effective date of this permit, the permittee shall evaluate 1) permanently covering all raw materials stored outside, 2) implementing alternative pollution prevention and treatment technologies to reduce and/or eliminate the concentrations of aluminum and zinc in the discharge, and 3) replacing the roofs at the facility. These evaluations shall be completed two (2) years from the effective date of the permit. The evaluation of alternative pollution prevention and treatment technologies shall include, at a minimum, research on specific technologies currently available to remove aluminum and zinc, the aluminum and zinc reduction capabilities of each technology, the cost associated with each technology, and the feasibility of implementation at this facility. The evaluation of the replacement of the roofs shall include, at a minimum, research on coatings, coverings, and alternative roof materials available to reduce the exposure of the roof runoff to aluminum and zinc, the costs associated with each, and the feasibility of implementation at this facility.
7. In the event the Outfall 002 effluent concentration of aluminum or zinc are not below the benchmark monitoring concentrations in the MSGP for four consecutive months within two (2) years of the effective date of the permit then the permittee shall, within three (3) years of the effective date of the permit, complete one or more of the following changes to reduce or eliminate the concentration of aluminum or zinc in the discharge: 1) permanently cover all raw materials stored outside; 2) implement new pollution prevention and treatment technologies; and 3) replace one or more of the roofs at the facility.

V. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) typically administer Section 7 consultations for bird, terrestrial, and freshwater aquatic species.

EPA has reviewed the federal endangered or threatened species of fish and wildlife to see if any such listed species might potentially be impacted by the re-issuance of this NPDES permit. The available ESA information indicates that there are no federally listed endangered species in the

vicinity of the facility's discharge. Therefore, consultation under Section 7 of the ESA with National Marine Fisheries Service (NMFS) and USFWS is not required. During the public comment period, EPA has provided a copy of the draft permit and fact sheet to NMFS and USFWS.

VI. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with NMFS if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat" (EFH). The Amendments define EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802(10)). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH (50 C.F.R. 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Id.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b)(1)(A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

A review of available EFH information indicates that Bonny Brook is not designated EFH for any federally managed species. Therefore, consultation with NMFS is not required. If adverse effects are detected as a result of this permit action, NMFS will be notified and an EFH consultation will promptly be initiated. During the public comment period, EPA has provided a copy of the draft permit and fact sheet to NMFS.

VII. MONITORING AND REPORTING

The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308 (a) of the CWA in accordance with 40 CFR §§122.41 (j), 122.44 (l), and 122.48.

The Draft Permit includes new provisions related to Discharge Monitoring Report (DMR) submittals to EPA and the State. The Draft Permit requires that, no later than one year after the effective date of the permit, the permittee submit all monitoring data and other reports required by the permit to EPA using NetDMR, unless the permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt out request").

In the interim (until one year from the effective date of the permit), the permittee may either submit monitoring data and other reports to EPA in hard copy form, or report electronically using NetDMR.

NetDMR is a national web-based tool for regulated Clean Water Act permittees to submit discharge monitoring reports (DMRs) electronically via a secure Internet application to U.S. EPA

through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following url: <http://www.epa.gov/netdmr> Further information about NetDMR, including contacts for EPA Region 1, is provided on this website.

EPA currently conducts free training on the use of NetDMR, and anticipates that the availability of this training will continue to assist permittees with the transition to use of NetDMR. To participate in upcoming trainings, visit <http://www.epa.gov/netdmr> for contact information for Massachusetts.

The Draft Permit requires the permittee to report monitoring results obtained during each calendar month using NetDMR, no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, permittees must continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP.

The Draft Permit also includes an “opt-out” requests process. Permittees who believe they can not use NetDMR due to technical or administrative infeasibilities, or other logical reasons, must demonstrate the reasonable basis that precludes the use of NetDMR. These permittees must submit the justification, in writing, to EPA at least sixty (60) days prior to the date the facility would otherwise be required to begin using NetDMR. Opt-outs become effective upon the date of written approval by EPA and are valid for twelve (12) months from the date of EPA approval. The opt-outs expire at the end of this twelve (12) month period. Upon expiration, the permittee must submit DMRs and reports to EPA using NetDMR, unless the permittee submits a renewed opt out request sixty (60) days prior to expiration of its opt out, and such a request is approved by EPA.

Until electronic reporting using NetDMR begins, or for those permittees that receive written approval from EPA to continue to submit hard copies of DMRs, the Draft Permit requires that submittal of DMRs and other reports required by the permit continue in hard copy format.

VIII. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the MassDEP certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Surface Water Quality Standards or unless state certification is waived. The staff of the MassDEP has reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State pursuant to 40 CFR §124.53 and expects that the draft permit will be certified.

IX. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Office of Ecosystem Protection Attn: Nicole Kowalski, 5 Post Office Square, Suite 100 (OEP06-4), Boston, Massachusetts 02109-3912 or via email to kowalski.nicole@epa.gov. The comments should reference the name and permit number of the facility for which they are being provided.

Any person, prior to such date, may submit a request in writing to EPA and the States Agency for a public hearing to consider the draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston Office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

X. EPA & MassDEP CONTACTS

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Nicole Kowalski, EPA New England – Region 1
5 Post Office Square - Suite 100 (OEP06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1746 FAX: (617) 918-0746
email: kowalski.nicole@epa.gov

Kathleen Keohane, Massachusetts Department of Environmental Protection
Division of Watershed Management, Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608
Telephone: (508) 767-2856 FAX: (508) 791-4131
email: kathleen.keohane@state.ma.us

Date

Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

XI. ATTACHMENTS

A. DMR Data Summary

B. Aerial Photograph of Site Location

Attachment A
Wyman Gordon - Millbury (MA0001121)

Summary of DMR Data

Parameter	Unit	pH	SU	TSS mg/L	O&G mg/L	Rainfall in	Flow gal/d	Zinc mg/L	Aluminum, Total mg/L	LC50 - Ceriodaphnia %	LC50 - Pinephales %
Type	MIN	MAX	DAILY MX	DAILY MX	MO AVG	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MN	DAILY MN
3/31/2003	6.76	6.76	27	0	0.52	0.93	31,514	0	0.72	100	100
4/30/2003	6.91	6.91	18	0	0.4	1	37,592	0.51	1.4	100	100
5/31/2003	7	7	79	8.9	0.34	0.92	31,040	0.51	1.4	100	100
6/30/2003	6.5	6.5	16	5.3	0.64	1.15	45,005	0.09	0.24	68.3	83
7/31/2003	5.91	5.91	25	4.3	0.62	1.35	60,677	0.09	0.24	68.3	83
8/31/2003											
9/30/2003	6.9	6.9	9	0	0.62	1.4	90,434	0.12	0.34	100	100
10/31/2003	5.8	5.8	25	0	0.57	2.13	271,568	0.14	0.61	100	100
11/30/2003	6.47	6.47	9	0	0.18	0.84	28,464	0.14	0.61	100	100
12/31/2003	5.98	5.98	97	5.2	1.1	1.59	79,633	0.23	0.69	70.7	100
1/31/2004	C	C	C	C	C	C	C	C	C	C	C
2/29/2004	C	C	C	C	C	C	C	C	C	C	C
3/31/2004	7	7	22	0	0.33	2.43	155,453	0.17	3	100	100
4/30/2004	5.15	5.15	0	0	0.87	2.76	186,798	0.21	1.1	100	100
5/31/2004	6.6	6.6	79	4.6	0.42	1.04	36,851	0.23	0.69	70.7	100
6/30/2004	6.43	6.43	6	0	0.21	0.59	36,851	0.23	0.69	70.7	100
7/31/2004	6.03	6.03	14	0	0.52	2.88	196,234	0.32	1.4	100	100
8/31/2004	C	C	C	C	C	C	C	C	C	C	C
9/30/2004	5.84	5.84	4	8.6	1.08	3.75	284,326	0.32	1.4	100	100
10/31/2004	6.86	6.86	22	0	0.23	0.88	29,820	0.11	0.9	100	100
11/30/2004	E	E	E	E	E	E	E	E	E	E	E
12/31/2004	5.4	5.4	18	0	0.62	1.12	42,781	0.11	0.9	100	100
1/31/2005	7.12	7.12	48	0	0.5	0.82	27,787	0.15	0.45	100	100
2/28/2005	7.04	7.04	321	19	0.46	0.94	31,853	0.15	0.45	100	100
3/31/2005	6.52	6.52	6	0	0.69	2.38	151,747	0.15	0.45	100	100
4/30/2005	7.26	7.26	6	0	0.71	2.02	117,331	0.15	0.45	100	100
5/31/2005											
6/30/2005	E	E	E	E	E	E	E	E	E	E	E
7/31/2005	5.68	5.68	74	0	0.85	2.45	157,359	0.12	0.73	100	100
8/31/2005	4.21	4.21	36	0	0.51	2.67	178,220	0.12	0.73	100	100
9/30/2005	5.99	5.99	18	0	0.74	2.77	187,751	0.12	0.49	100	100
10/31/2005	6.62	6.62	11	0	1.31	5.76	488,914	0.04	0.05	100	100
11/30/2005	5.05	5.05	9	0	0.65	1.78	96,682	0.04	0.05	100	100
12/31/2005	6.46	6.46	1	0	0.62	1.04	36,851	0.29	5.63	100	100
1/31/2006	6.69	6.69	246	0	0.49	0.9	30,498	0.29	5.63	100	100
2/28/2006	5.84	5.84	22	0	0.42	0.91	30,836	0.29	5.63	100	100
3/31/2006	C	C	C	C	C	C	C	C	C	C	C
4/30/2006	5.73	5.73	46	0	0.22	0.65	22,026	0.38	0.23	70.7	100
5/31/2006	6.59	6.59	12	0	0.6	1.51	73,385	0.38	0.23	70.7	100
6/30/2006	6.02	6.02	1	0	0.68	2.18	132,156	0.28	1.05	100	100
7/31/2006	6.55	6.55	265	6.5	0.37	0.85	28,803	0.28	1.05	100	100
8/31/2006	5.01	5.01	33	0	0.62	1.43	67,031	0.56	0.42	100	100
9/30/2006	5.51	5.51	17	0	0.31	0.69	23,381	0.56	0.42	100	100
10/31/2006	6.72	6.72	11	0	0.68	2.23	136,816	0.07	0.13	100	100
11/30/2006	6.74	6.74	10	0	0.73	1.83	101,023	0.07	0.13	100	100

C - No discharge
E - Analysis not conducted

Parameter		pH		TSS	O&G	Rainfall		Flow	Zinc	Aluminum, Total	LC50 - Ceriodaphnia	LC50 - Pimephales
Unit		SU		mg/L	mg/L	in	in	gal/d	mg/L	mg/L	%	%
Type		MIN	MAX	DAILY MX	DAILY MX	MO AVG	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MN	DAILY MN
12/31/2006		6.69	6.69	31	0	0.61	0.95	32.192	---	---	---	---
1/31/2007		E	E	E	E	E	E	E	E	E	100	E
2/28/2007		6.1	6.1	9	0	0.47	1.54	75.714	---	---	---	---
3/31/2007		7.05	7.05	43	0	0.63	2.3	143.381	0.11	0.9	---	---
4/30/2007		6.98	6.98	41	0	0.68	3.6	269.395	---	---	100	---
5/31/2007		6.91	6.91	22	0	0.81	2.34	147.087	0.26	2.37	---	---
6/30/2007		6	6	95	0	0.28	0.76	25.754	---	---	---	---
7/31/2007		6.41	6.41	17	0	0.45	1.69	88.634	0.171	0.363	35.4	100
8/31/2007		6.31	6.31	17	0	0.16	0.38	12.877	---	---	---	---
9/30/2007		6.41	6.41	6	0	0.57	1.4	64596	0.139	0.182	---	---
10/31/2007		6.8	6.8	33	16.6	0.25	0.94	31853	---	---	---	---
11/30/2007		6.85	6.85	9	0	0.46	1.42	66184	0.204	0.081	---	---
12/31/2007		6.27	6.27	12	0	0.44	0.44	42019	---	---	---	---
1/31/2008		6.57	6.57	126	0	0.44	1.46	69361	0.282	3.4	100	0.1
2/29/2008		E	E	E	E	E	E	E	E	E	E	E
3/31/2008		5.64	5.64	62	0	0.65	1.27	54.324	0.079	1.75	---	---
4/30/2008		6.96	6.96	10	0	0.8	2.08	122.837	---	---	100	---
5/31/2008		6.43	6.43	1	0	0.27	0.47	15.927	0.097	0.289	---	---
6/30/2008		5.98	5.98	20	0	0.35	1.75	94.034	---	---	---	---
7/31/2008		E	E	E	E	E	E	E	E	E	E	E
8/31/2008		7.08	7.08	57	0	0.56	2.75	185.845	---	---	---	---
9/30/2008		6.61	6.61	2	0	0.95	4.29	338.693	0.059	0.166	---	---
10/31/2008		6.37	6.37	54	0	0.38	1.23	51.147	---	---	100	---
11/30/2008		6.86	6.86	10	0	0.43	1.73	92.234	0.056	0.475	---	---
12/31/2008		6.6	6.6	27	0	0.79	2.57	168.690	---	---	---	---
1/31/2009		6.69	6.69	0	0	0.39	1.21	49.559	0.31	0.766	100	100
2/28/2009		6.22	6.22	6	0	0.3	0.68	23.043	---	---	---	---
3/31/2009		6.4	6.4	57	8.63	0.27	0.71	24.100	0.101	1.64	E	E
4/30/2009		E	E	E	E	E	E	E	E	E	E	E
5/31/2009		5.86	5.86	29	0	0.26	0.45	15.249	0.108	0.865	---	---
6/30/2009		5.76	5.76	454	6.1	0.23	0.81	27.500	0.82	5.28	---	---
7/31/2009		6.36	6.36	3	0	0.84	3.13	240.500	0.8	0.216	68.3	---
8/31/2009		6.88	6.88	89	0	0.48	0.98	33.208	0.181	2.8	---	---
9/30/2009		7	7	8	0	0.51	0.56	19.000	0.181	2.8	---	---
10/31/2009		6.08	6.08	11	0	0.45	1.29	55.912	0.083	0.249	100	9
11/30/2009		4.92	4.92	48	0	0.5	1.47	70.200	0.127	0.966	---	---
12/31/2009		7.04	7.04	21	0	0.59	1.24	51.888	0.249	1.37	---	---
1/31/2010		6.47	6.47	176	0	0.5	1.36	61.419	0.286	6.36	100	9
2/28/2010		---	---	---	---	---	---	---	0.735	13	---	---
3/31/2010		6.1	6.1	168	0	1	2.66	177.267	0.287	3.88	---	---
Parameter		pH		TSS	O&G	Rainfall		Flow	Zinc	Aluminum, Total	LC50 - Ceriodaphnia	LC50 - Pimephales
Limit Values		6.5 - 8.3		Req. Mon.	15	Req. Mon.	Req. Mon.	Req. Mon.	mg/L	mg/L	100	100
Unit		SU		mg/L	mg/L	in	in	gal/d	mg/L	mg/L	%	%
Type		MIN	MAX	DAILY MX	DAILY MX	MO AVG	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MN	DAILY MN
Exceedences		38	0	NA	2	NA	NA	NA	NA	NA	4	2
Maximum		7.26	7.26	454	19	1.31	5.76	488.914	0.82	13	100	100
Minimum		4.21	4.21	0	0	0.16	0.38	12.877	0	0.05	35.4	0
Average		6.34	6.34	44	1.3	0.54	1.62	94.571	0.23	1.66	91.9	86

C - No discharge
E - Analysis not conducted

Attachment B – Aerial Photograph of Site Location
Wymann Gordon, Millbury (MA0001121)

